**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
LUFKIN DIVISION**

Blackboard Inc.,	)	
	)	Case No. 9:06 CV 155
Plaintiff,	)	
	)	Judge Clark
v.	)	Judge Hines
	)	
Desire2Learn Inc.,	)	
	)	
Defendant.	)	

BLACKBOARD'S OPENING CLAIM CONSTRUCTION BRIEF

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TABLE OF CONTENTS

TABLE OF ATTACHMENTS

THE INDEPENDENT CLAIMS OF THE '138 PATENT

Reprinted for the Court's convenience at Attachment 2

(Disputed terms are in bold)

Claim 1

A course-based system for providing to an educational community of users access to a plurality of online courses, comprising:

a) a plurality of user computers, with each user computer being associated with a user of the system and **with each user being capable of having predefined characteristics indicative of multiple predetermined roles in the system**, each role providing a level of access to a plurality of data files associated with a particular course and a level of control over the data files associated with the course with the **multiple predetermined user roles comprising at least two user's predetermined roles** selected from the group consisting of a student role in one or more courses associated with a student user, an instructor role in one or more courses associated with an instructor user, and an administrator role associated with an administrator user, and

b) a server computer in communication with each of the user computers over a network, the server computer comprising:

> **means for storing a plurality of data files associated with a course**,
>
> **means for assigning a level of access to and control of each data file based on a user of the system's predetermined role in a course**;
>
> **means for determining whether access to a data file associated with the course is authorized**;
>
> **means for allowing access to and control of the data file associated with the course if authorization is granted based on the access level of the user of the system**.

-vi-

Claim 36

An method for providing online education method for a community of users in a network based system comprising the steps of:

a. **establishing that each user is capable of having redefined characteristics indicative of multiple predetermined roles in the system** and each role providing a level of access to and control of a plurality of course files;

b. establishing a course to be offered online, comprising

   i. **generating a set of course files for use with teaching a course**;

   ii. transferring the course files to a server computer for storage; and

   iii. allowing access to and control of the course files according to the established roles for the users according to step (a);

c. **providing a predetermined level of access and control over the network to the course files** to users with an established role as a student user enrolled in the course; and

d. providing a predetermined level of access and control over the network to the course files to users with an established role other than a student user enrolled in the course.

TABLE OF DISPUTED TERMS

Reprinted for the Court's convenience at Attachment 3

Claim Term	Blackboard's Proposed Construction *(as set forth in this brief)*	D2L's Proposed Construction *(as set forth in the Parties' May 4, 2004 Joint Statement on Claim Construction, Ex. A)*	Pages in Brief
with each user being capable of having predefined characteristics indicative of multiple predetermined roles in the system (claim1)	Each user can have multiple roles in the system such that each user identity can have one role in one course and another role in another course. The roles and some associated characteristics are set before the user can access data files of a course.	A user may be assigned more than one role. The roles contain properties that have been defined by the system, not by a user.	6-10
multiple predetermined user roles comprising at least two user's predetermined roles (claim 1)	*See construction for "with each user being capable of having predefined characteristics indicative of multiple predetermined roles in the system" above.* *No further construction necessary—plain and ordinary meaning.*	The system has more than one user roles, at least two of which are defined by the system, not by a user.	10-11
means for storing a plurality of data files associated with a course (claim 1)	The <u>function</u> is õstoring a plurality of data files associated with a course.ö The corresponding <u>structure</u> is a server computer with a storage device, such as a database or persistence storage (*e.g.*, 140 in Fig. 1), and equivalents thereof.	*Function*: Storing a plurality of data files associated with a course *Structure*: System server 100 *Construction*: The data files for a course must be stored on a server computer.	13-16

Claim Term	Blackboard's Proposed Construction *(as set forth in this brief)*	D2L's Proposed Construction *(as set forth in the Parties' May 4, 2004 Joint Statement on Claim Construction, Ex. A)*	Pages in Brief
means for assigning a level of access to and control of each data file based on a user of the system's predetermined role in a course (claim 1)	The <u>function</u> is õassigning a level of access to and control of each data file based on a user of the system's predetermined role in a course.ö The corresponding <u>structure</u> is a server computer with an access control manager (*e.g.*, 152 in Fig. 1), and equivalents thereof.	*Function*: Assigning a level of access and control of each data file based on user's predetermined role in a course. *Structure*: A level of access and control of each file is supplied by the role taken on by the user's role in the associated course. *Construction*: After a non-executable file is transferred to the server computer, a user with the instructor role designates which system defined roles should have which levels of access and levels of control over the file.	16-19
means for determining whether access to a data file associated with the course is authorized (claim 1)	The <u>function</u> is õdetermining whether access to a data file associated with the course is authorized.ö The corresponding <u>structure</u> is a server computer with access control data, such as an access control list, and equivalents thereof.	*Function*: Determining whether access to a file associated with the course is authorized. *Structure*: Shell service 131 servlet provides user authentication. *Construction*: The access control list is used to determine whether the user's role has the level of access needed to locate, view, read, or download a non-executable file.	19-22

Claim Term	Blackboard's Proposed Construction *(as set forth in this brief)*	D2L's Proposed Construction *(as set forth in the Parties' May 4, 2004 Joint Statement on Claim Construction, Ex. A)*	Pages in Brief
means for allowing access to and control of the data file associated with the course if authorization is granted based on the access level of the user of the system (claim 1)	The <u>function</u> is õallowing access to and control of the data file associated with the course if authorization is granted based on the access level of the user of the system.ö The corresponding <u>structure</u> is a server computer with access and control logic, such as an engine (*e.g.*, 114, 115, or 116 in Fig. 1, or 301 in Fig. 3), factory (*e.g.*, 303 in Fig. 3), registry (*e.g.*, 111, 112, or 113 in Fig. 1, or 302 in Fig. 3), or manager (*e.g.*, 153, 154, 155, 156, or 158 in Fig. 1), and equivalents thereof.	*Function*: Allowing access to and control of the data file associated with the course if authorization is granted based on the access level of the user of the system. *Structure*: Access control manager 151. *Construction*: The server computer has an access control list which identifies which roles have which levels of access to the non-executable files stored on the server computer. The level of access is used to determine both the user's access and control over the non-executable files.	22-23
An method for providing online education method for a community of users in a network based system comprising the steps of: (claim 36)	*After correcting the PTO's error by eliminating the superfluous "method for providing," plain and ordinary meaning is sufficient. No further construction is necessary.*	A method for exchanging online education materials and information between non-collocated instructors and students, using a computer network.	26-27

| Claim Term | Blackboard's Proposed Construction

(as set forth in this brief) | D2L's Proposed Construction

(as set forth in the Parties' May 4, 2004 Joint Statement on Claim Construction, Ex. A) | Pages in Brief |
|---|---|---|---|
| establishing that each user is capable of having redefined characteristics indicative of multiple predetermined roles in the system

(claim 36) | *The PTO error should be corrected by changing "redefined" to predefined. The term should then be construed as:*

Establishing that each user can have multiple roles in the system such that each user identity can have one role in one course and another role in another course. The roles and some associated characteristics are set before the user can access data files of a course. | A user may be assigned more than one role. The roles contain properties that have been defined by the system, not by a user. | 28 |
| providing a predetermined level of access and control [over the network to the course files][1]

(claim 36) | Providing access and control to course files over the network, where the level of access and control is set before the user can access or control course files. | The authority to locate, view, read, download, modify, add, move, and delete files associated with a course is provided by the system, not by a user. | 28-29 |
| generating a set of course files for use with teaching a course

(claim 36) | *No construction necessary— plain and ordinary meaning.* | Creation by the instructor user of more than one file for use in teaching a course | 30 |

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[1] For grammatical consistency, Blackboard believes the bracketed claim language should also be construed as part of this claim element.

I.   INTRODUCTION

This case involves a single patent: U.S. Patent 6,988,138 (the õ'138 patentö). The '138 patent, which is held by Plaintiff Blackboard Inc. õ(Blackboardö), is reprinted at <u>Attachment 1</u>. Ten major claim terms remain in dispute. All ten derive from the two independent claims of the patent, which are reprinted at <u>Attachment 2</u>. Six claim terms in claim 1 are in dispute, four of which involve determining the claimed function and the corresponding structure of means-plus-function clauses. The remaining four claim terms in dispute are in claim 36. The disputed terms and the partiesø current proposed constructions are reprinted at <u>Attachment 3</u>.

As discussed below, the language of the claims and the intrinsic and extrinsic evidence dictate that all ten disputes be resolved in favor of Blackboard.

II.   CLAIM CONSTRUCTION STANDARD OF REVIEW

The Court has set forth the standard of review for claim construction in numerous cases. Blackboard incorporates by reference the framework articulated by the Court. *See Computer Acceleration Corp. v. Microsoft Corp.*, No. 06-140, 2007 U.S. Dist. LEXIS 33648, at *2-*7 (E.D. Tex. May 7, 2007).

III.   BACKGROUND OF THE TECHNOLOGY

A.   <u>Blackboard's '138 Patent</u>

The '138 patent claims systems and methods for implementing Internet-based education support. The patent application, which was filed on June 30, 2000, by Robert Alcorn and six other inventors, was based on and claims filing priority from three co-pending provisional applications, the first of which was filed on June 30, 1999.

Generally speaking, the invention of the '138 patent relates to the exchange of information between instructors and students in an educational context. *Patent* 1:17-19. More specifically, the invention relates to systems and methods in which an educational instructor interacts with one or more students by transmitting course materials, lectures, syllabi, and other literature, receiving student questions and input, and conducting participatory class discussions, all using the Internet. *Id.* 1:19-26. The software that facilitates this interaction is known as

-2-

course management system software. Today, course management system software is used at most colleges and universities and many primary and secondary schools. Blackboard is the leading provider of course management system software in the United States. Defendant Desire2Learn Inc. ("D2L"), a privately held Canadian company, is one of Blackboard's competitors.

In view of the widespread use today of personal computers over the Internet and the remarkable development of this technology over such a short period of time, it is easy to forget the level of sophistication of computer systems in the 1990s. In the 1990s, many of the available course management systems required specialized knowledge in order to use them effectively. *Id.* 1:62-65. Even graphical user interfaces that were designed to be simple and to take advantage of the World Wide Web often proved too difficult to master in the 1990s. They were complicated and confusing *Id.* 1:65-2:30. Most dauntingly, each component of a user's online experience involved traversing multiple web pages and logging on multiple times. *Id.* 2:40:65. For example, a student user might need to type in one Uniform Resource Locator (URL, the technical term for a web address) to view materials for his Economics course, where he would use the user name "JohnSmith" and the password "hamilton." The same student would need to type in a different URL to view materials for his Calculus course, where he would use the user name "SmithJ" and the password "madison."   Each course might use software created by a different vendor, featuring wholly different user interfaces.

The invention of the '138 patent solves these problems.   On one level, the interrelationship between the various components of the invention is complex, as Figure 1 below (and reprinted in larger form at Attachment 4) highlights with respect to one embodiment disclosed in the '138 patent:
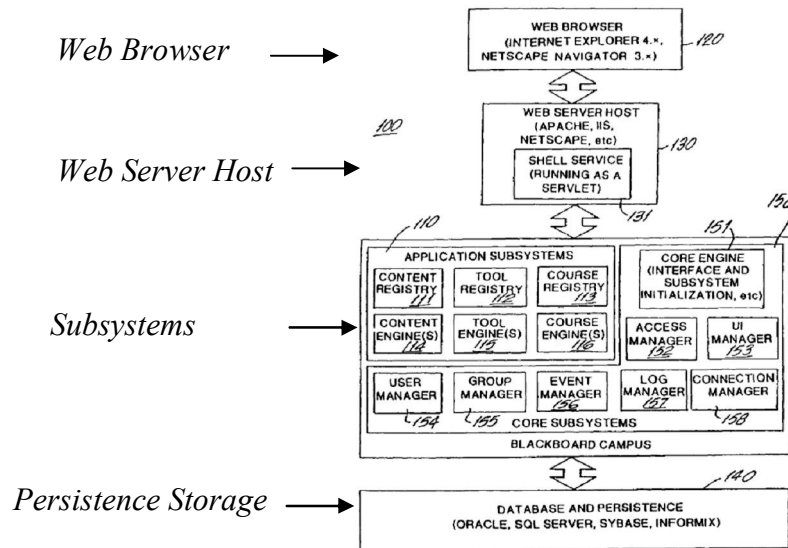
Web Browser   ⟶

Web Server Host   ⟶

Subsystems   ⟶

Persistence Storage   ⟶

FIG.1

Web Browser. This is software, such as Internet Explorer, running on a user's computer that allows a user to interact with the course management system through the web.

Web Server Host. This is the software running on a server computer that is the interface between the user's web browser and the course management system.[2]

Subsystems. This is the software running on a server computer that performs the functions or operations of the course management system.

Persistence Storage. This is a type of storage that maintains data even when the power is turned off and not supplied to the storage, such as a database.[3] The data can be retrieved from the storage after the power is turned back on.[4] Course file data and access control data can be

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[2] IBM DICTIONARY OF COMPUTING (10th ed. 1994), *reprinted at* Attachment 5, at 612 (Server: "1. A *functional unit* that provides shared services to workstations over a network; for example, a file server, a print server, a mail server. 2. In a network, a *data station* that provides facilities to other stations; for example, a file server, a print server, a mail server. 3. In the AIX operating system, an *application program* that usually runs in the background and is controlled by the system program controller. 6. In TCP/IP, a *system* in a network that handles the requests of a system at another site, called a client-server.") (emphasis added).

[3] IBM DICTIONARY OF COMPUTING, *supra*, at 165 (Database: "1. A collection of data with a given structure for accepting, storing, and providing, on demand, data for multiple users. 2. A collection of inter-related data organized according to a database schema to serve one or more applications.").

[4] MICROSOFT PRESS COMPUTER DICTIONARY (3d ed. 1997), *reprinted at* Attachment 6, at 361 (Persistent storage: "Memory that remains intact when the power to a device is turned off, such as ROM.").

stored in persistence storage. An example of course file data is a quiz created by an instructor that may later be accessed by a student in the course. An example of access control data is a list of users who have the role of student in a particular course that authorizes them to access data available to student users in the course, such as a quiz in the course.

The end-result is a user-friendly system that allows students, instructors, and administrators (among others) to engage with each other in an online education community and carry out their various and respective functions. Figure 6 of the Patent, which is reprinted in larger form at Attachment 7, demonstrates this:
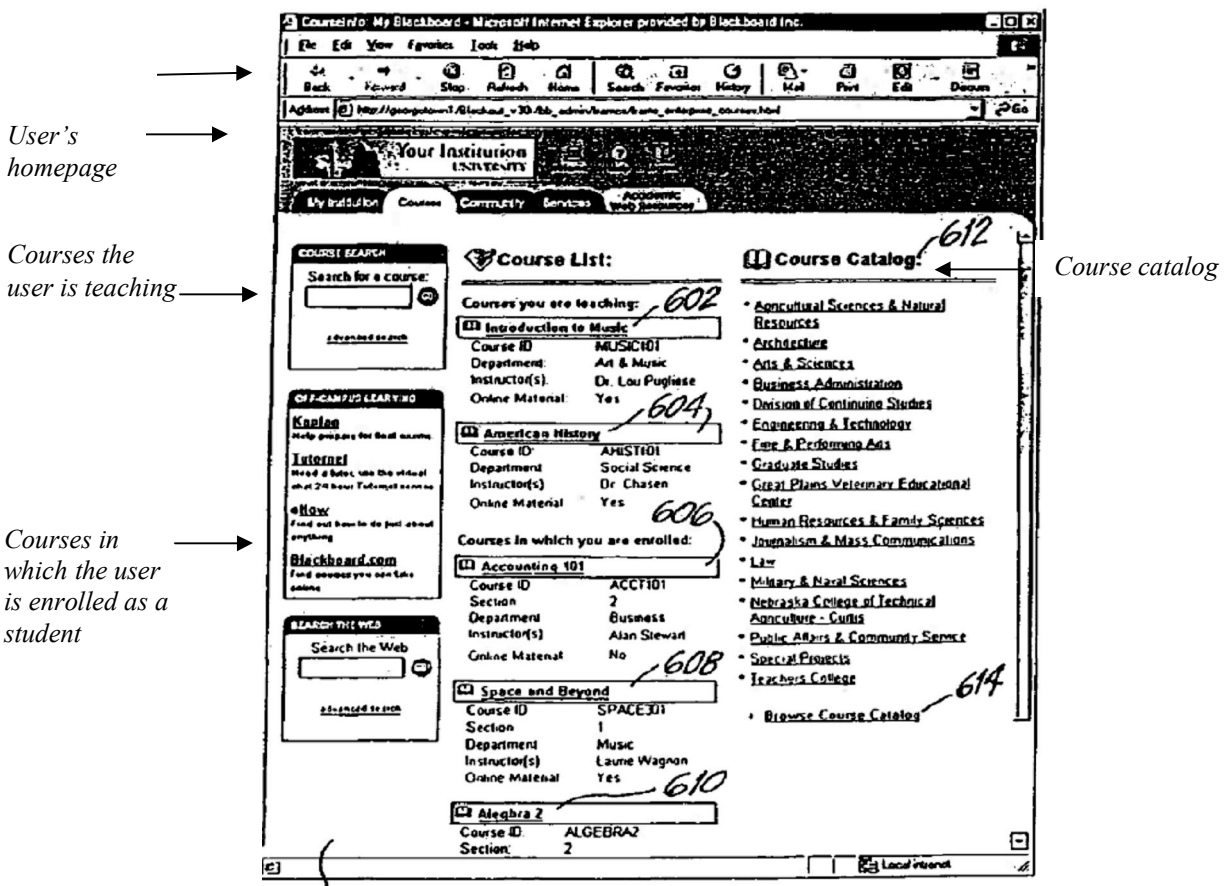
Figure 6 shows how the invention solved the problem of multiple URLs and log-in information. In the embodiment of the invention, each user logs on and immediately sees a list of links to all the courses with which he is associated. *See Patent* 13:50-61. Because a user can have the role of a student in one course and the role of instructor in another (for example, a Professor of Music may take an Accounting class), the list includes all the courses that the user is

teaching (in Figure 6, Introduction to Music and American History) *and* all the courses in which the user is enrolled as a student (in Figure 6, Accounting 101, Space and Beyond, and Algebra 2). *See Patent* 4:53-59 (describing this process). If the user clicks on a link for a course he is teaching, he will go to that course and automatically have the privileges associated with the instructor role. For example, as an instructor, he can add assignments or record grades – privileges available to instructors. *See* Figures 19, 22; *Patent* 18:66-19:4, 17:20-30. If, however, the user clicks on a link for which he is a student, his privileges, which are predetermined, will automatically be limited. *Patent* 4:19-25. All of this occurs at a single web-site, using a single login and password. In other words, a single user can have multiple roles across multiple courses. That user can avail himself of all the various features described in the ʼ138 patent.

B.   One of Ordinary Skill in the Art

The level of one of ordinary skill in the art is a post-high school education in computer science, or related area, but not necessarily a four-year degree, as well as a couple of years working in developing software applications that work over the Internet or world wide web for online collaboration in an educational context, or equivalent education and work experience. *Jones Depo. Tr.* at 34:21-36:3, *reprinted at* Attachment 8; *Patent* 1:17-29; *Supplemental Declaration of Mark Jones, Ph.D. in Support of Blackboard's Proposed Claim Constructions* (“*Supp. Jones Dec.*”), *reprinted at* Attachment 9, at ¶ 5.

IV.   CLAIM CONSTRUCTION

The parties have jointly filed a stipulation as to the construction of four claim terms: “asynchronous communication,” “synchronous communication,” “tool,” and “hyperlink.” *See* Document 85-2, *reprinted at* Attachment 10. Blackboard respectfully requests that Court adopt these constructions.

All ten of the parties' disputes involve the two independent claims of the ʼ138 patent: claims 1 and 36. Both claims are reproduced in their entirety at the front of this brief and at Attachment 1 with the disputed terms in bold.   Claim 1 is a system claim, and claim 36 is a

method claim. Claim 36 contains two errors not made by the applicant but made by the United States Patent and Trademark Office (õPTOö), which the Court has the power to correct.

A. Disputed Claim Terms in Claim 1

1. "With each user being capable of having predefined characteristics indicative of multiple predetermined roles in the system"

Blackboardøs Proposed Construction	D2Løs Proposed Construction
Each user can have multiple roles in the system such that each user identity can have one role in one course and another role in another course. The roles and some associated characteristics are set before the user can access data files of a course.	A user may be assigned more than one role. The roles contain properties that have been defined by the system, not by a user.

The parties agree that the claim term relates to a user having more than one role, and that the roles have characteristics or properties associated with them.   However, Blackboardøs construction provides for õmultipleö predetermined roles, such that each user can have one role in one course and another role in another course. Blackboardøs construction also makes clear that õ*pre*determinedö is a temporal restriction ó that the roles and some associated characteristics are set before a user can access data files of a course. D2Løs construction reads these limitations out of the claim, while adding a limitation that has no support at all in the claim language: that the õroles contain properties that have been defined by the system, not by a user.ö

a. The roles are "multiple" such that each user can have one role in one course and another role in another course. The claim language specifically teaches that the term õmultiple predetermined rolesö covers õ*at least two user's predetermined roles*ö selected from the group of a student role associated with a student user, an instructor role associated with an instructor user, and an administrator role associated with an administrator user. *Patent* 30:28-35 (emphasis added). The specification notes that users õmay have one or several roles such as student, instructor, teaching assistant (TA), or administrator).ö *Id.* 7:58-59.

Given the place that the õmultiple rolesö feature has in achieving the benefits of the patented solution, it is of great importance that the Courtøs construction of this term reflect the

express provisions of the specification that user õroles may be mixed,ö and that õan instructor of

one courseö may be õa student in another courseö:

> The user roles comprise a student role associated with a student user, an instructor role associated with an instructor user, and an administrator role associated with an administrator user (*roles may be mixed; for example, when an instructor of one course, is also a student in another course*).

Id. 4:7-11 (emphasis added).

Many figures of the ø138 patent show users having a student role in at least one course

and an instructor role in at least one course. *Id.* at Figs. 5-6; *id.* at Fig. 39 (describing system

whereby user may be both an instructor user and a student user). The specification explains: õA

user may be required to enter a login sequence into a user computer in order to be provided with

access to course files associated with that user. The user is then provided with access to all

courses with which the user is associated after entry of the logon sequence.ö *Patent* 4:52-56.

The specification continues: õThe user is provided with a web page comprising a plurality of

hyperlinks, each of the course hyperlinks associated with each course that the user has been

enrolled either as an instructor or as a student.ö *Id.* 4:56-59. Omission of the key concept of

õone role in one course and another role in another courseö from the construction of this term

would overlook the benefits of the invention.

During prosecution of the ÷138 patent, the inventors amended the claims to further clarify

that a user is capable of having more than one role in a system in regard to various courses:

> These clarifying amendments are directed to (i) the user of the system being *capable* of having *multiple roles in the system with regard to a number of courses*, and access to and control of course files based on these multiple roles, and (ii) the system being a *course-centric*, and instructor-based instruction system.

Dec. 1, 2004 Amend. at 10 (emphasis added), *reprinted at* <u>Attachment 11</u>. The Examiner

specifically commented on this point in allowing the claims:

> The following is an examinerøs statement of reasons for allowance: None of the prior art teach or suggest . . . *each user* being capable of having predefined characteristics indicative of *multiple predetermined role*s in the system . . . comprising *at least two* userøs predetermined roles selected from the group consisting of a student role in one or more course [sic: courses] associated with a student user, an instructor role in one or

-7-

more courses associated with an instructor user and an administrator role associated with an administrator user.

Aug. 18, 2005 Supp. Notice of Allowability at 3 (emphasis added), *reprinted at* Attachment 12.

Blackboardøs construction is supported by the expert declaration of Dr. Mark Jones, professor of electrical and computer engineering at Virginia Tech.   Dr. Jones testified that Blackboardøs construction properly takes into account the specification and prosecution history. Dr. Jones stated: õThe ø138 patent itself describes the multiple predetermined roles feature as the ability of each user identity to have one role in one course and another in another course.ö *Declaration of Mark Jones, Ph.D. in Support of Blackboard's Proposed Claim Constructions* (õ*Jones Dec.*ö), *reprinted at* Attachment 13, ¶ 21.

D2L CEO John Baker himself recognized that the disputed terms means a user may have a student role in one course and a teacher role in another. In discovery, D2L produced an email written by Mr. Baker requesting assistance in locating prior art relevant to the inventions set forth in the ø138 patent. Mr. Baker stated that relevant art would be art showing õthe ability to have one user have multiple roles in different courses (e.g., *a student in one course and a teacher in another*).ö *See* Attachment 14 (emphasis added).   Essentially, Mr. Baker endorsed Blackboardøs construction of the disputed term.

Now, however, D2Løs litigation-induced position is that the claim term is not limited to a user having one role in one course and another role in another course. D2L does not want to see such a limitation placed on the claim term in order to advance its strained invalidity arguments because the prior art does not disclose this feature, as reflected in the prosecution history of the patent. D2Løs overly broad construction should be rejected.

b.   *The roles and some associated characteristics are set before a user can access data files.* The claim term at issue requires õpredeterminedö roles and õpredefinedö characteristics. Blackboardøs construction accounts for a temporal limitation consistent with the plain meaning of õpredeterminedö and õpredefined,ö both of which are temporal in nature.   The word õpredetermineö means õto settle or decide in advance.ö RANDOM HOUSE WEBSTERøS COLLEGE DICTIONARY (2d ed. 1999), *reprinted at* Attachment 15, at 1038. Similarly, the word õpredefineö

means õto specify in advance.ö *Id.* at 348 (õdefineö), 1036 (õpreö). Thus, the act of determining or defining must occur in advance of some event. The plain meaning of the express claim language clarifies that the event to which õpredetermineö and õpredefineö pertains is the accessing of a plurality of data files: õpredefined characteristics indicative of multiple predetermined user roles in the system, each role providing a level of access to a plurality of data files . . . .ö *Patent* 30:24-27.

This construction accords with the specification. *See, e.g.*, *id.* 27:22-24 (õa student user is provided with an access level to enable reading of course files associated with a courseö); *id.* 21:66-22:6 (describing the assignment of a user to a role in a particular course at the time of his enrollment in the course); *see also id.* 27:16-26. As Dr. Jones testified: õThe multiple roles are predetermined and the characteristics indicative of these multiple roles are predefined in the roles and some associated characteristics are set before the user can access data files of a course, as provided in Blackboardøs proposed construction.ö *Jones Dec.* ¶ 21.

D2Løs proposed construction does not contain any temporal limitation. D2L would pretend that the words õpredeterminedö and õpredefinedö are not part of the claim. They are present, however, and that must be reflected by the construction of the term.

c. ***There is no support for D2L's proposed limitation that a role's properties must be defined by the system, not the user.*** D2Løs proposed claim construction includes the following limitation: õThe roles contain properties that have been defined by the system, not by a user.ö There is no support of this limitation in the claim language or the intrinsic or extrinsic evidence. The claim language speaks to *when* characteristics of multiple roles in the system are defined. The claim language does not speak to *who or what* defines the roles. The limitation simply is not there, nor is it necessary to understanding the invention of the ø138 patent. Dr. Jones testified: õThe fundamental error in [the] D2L construction is it reads in the unwarranted limitation that the properties of the roles must be defined in the system, not by a user. The portions of the ø138 patent specification do not support D2Løs proposed construction.ö *Jones Dec.* ¶ 22. Rather, as Dr. Jones observed, the specification refutes D2Løs construction: õIn fact, the specification

describes administrator users setting the properties of roles, contrary to D2L's proposed construction." *Id.* (citing *Patent* 12:61-63 ("The system administrator may control security permissions and enable/disable features for numerous user roles."), 13:17-19 ("Administrators may also assign different portal default settings to different user roles (e.g. students get different portals than instructors).")). Dr. Jones also noted that "there is nothing in the portions of the '138 patent file history [cited by D2L in its claim construction chart] that supports D2L's proposed limitation." *Id.* ¶ 22.

D2L's position in this case has been untenable since the outset. According to D2L, the '138 patent is invalid; its invention is so obvious and so broad that *every* course management system practices it and did so for years prior to the application – every one, that is, *except* D2L. This dilemma explains the strained nature of D2L's proposed construction of this key term, and of each term discussed in this brief. D2L must thread the needle by simultaneously construing the terms of the patent to include the alleged prior art while excluding the Accused Instrumentalities. The inclusion of this "defined by the system, not the user" limitation in D2L's proposed construction is a transparent attempt to introduce limitations that D2L believes would allow it to wiggle out of its infringement by unduly limiting this claim term in a way that excludes a user from defining the properties of roles. D2L's construction is utterly bereft of support – and indeed contradicted by the specification – and should be rejected by the Court.

2.   **"Multiple predetermined user roles comprising at least two user's predetermined roles"**

Blackboard's Proposed Construction	D2L's Proposed Construction
See construction for "with each user being capable of having predefined characteristics indicative of multiple predetermined roles in the system" *No further construction necessary—plain and ordinary meaning.*	The system has more than one user roles, at least two of which are defined by the system, not by a user.

In Section III.A.1 above, Blackboard set forth its construction for "with each user being capable of having predefined characteristics indicative of multiple predetermined roles in the

system.ö Blackboard believes that after that term, which includes õmultiple predetermined rolesö is construed, no further construction is necessary to define õmultiple predetermined user roles comprising at least two userø predetermined roles.ö   D2L disagrees. Once again, D2L would add a limitation such that the roles õare defined *by the system*, not the user.ö (emphasis added) There is no support for this limitation.

The phrase õmultiple predetermined rolesö comprises a substantial portion of the claim language being construed in this section: õ*multiple predetermined* user *roles* comprising at least two userø predetermined rolesö (identical language in italics). Only the terms õat least twoö and õuser[ø]ö remain. One of ordinary skill in the art, as well as a lay person, would understand what is meant by õuserö and õat least two.ö Thus, there is no need for any further construction.

As with the previous term, there is no support for a limitation that the roles õare defined by the system, not by a user.ö D2Lø construction is unnecessary. Nothing in the claim language even alludes to *who or what* defines the roles. *See Jones Dec.* ¶ 23.

B.   Means-Plus-Function Terms in Claim 1

Claim 1 recites a õserver computerö comprising four õmeansö elements to be interpreted under 35 U.S.C. § 112, ¶ 6. These server õmeansö elements can be summarized as a (1) õmeans for storingö course-associated data files; (2) õmeans for assigning a level of access to and controlö of course-associated data files; (3) õmeans for determining whether accessö to a course-associated data file is authorized for the user; and (4) õmeans for allowing access to and controlö of the course-associated data file if authorization is granted to the user.

Figures 1 and 3 provide an example of how these õmeansö elements function in the patent. As depicted below, using a web browser 120 (for example, Microsoft Internet Explorer), the user goes through a web server host 130 to interface with the course management system, shown as õBlackboard campusö in Figure 1.   Once the user interfaces with the course management system, the four õmeansö elements are then called into action.

(1) "means for storing ..."

At least some course files that may be accessed and/or controlled are stored in a **storage device**, such as a database or persistence storage 140 in Figure 1. *Supp. Jones Dec.* ¶ 8.

(2) "means for assigning ..."

Before users can access course files, an **access manager 152** in the course management system (as shown in Figure 1) is used to assign levels of access to and control for user roles in the course. A user in the instructor role will have different privileges than a user in the student role, *e.g.*, an instructor may access grades for all students in the course, whereas a particular student will only see his/her grades, or an instructor may control or assign grades, whereas a student may not. The access manager 152 is used to assign these different privileges to different roles in the course. *Supp. Jones Dec.* ¶ 11.
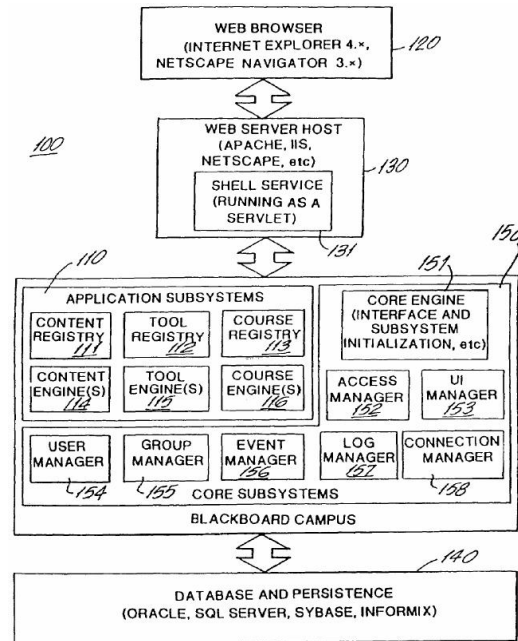
(3) "means for determining ..."

Once the role-based privileges are assigned, **access control data**, such as an access control list, is checked to determine whether the user's role permits the user to access that course file before the user can access the file, and what type of access is permitted. The access control list associates user role with the level of access to course files for that role. *Supp. Jones Dec.* ¶ 14.

(4) "means for allowing ..."

Once the access control list is checked, and assuming the user has the permission to access the course file as requested, **access and control logic** will be used to allow access to and control of the course file content from storage. Such access and control logic may be, *e.g.*, engines (*e.g.*, 114, 115, or 116 in Fig. 1, or 301 in Fig. 3), factories (*e.g.*, 303 in Fig. 3), registries (*e.g.*, 111, 112, or 113 in Fig. 1, or 302 in Fig. 3), or managers (*e.g.*, 153, 154, 155, 156, or 158 in Fig. 1). *Supp. Jones Dec.* ¶ 17.

FIG.1

FIG.3

-12-

1.   Means for storing a plurality of data files associated with a course.

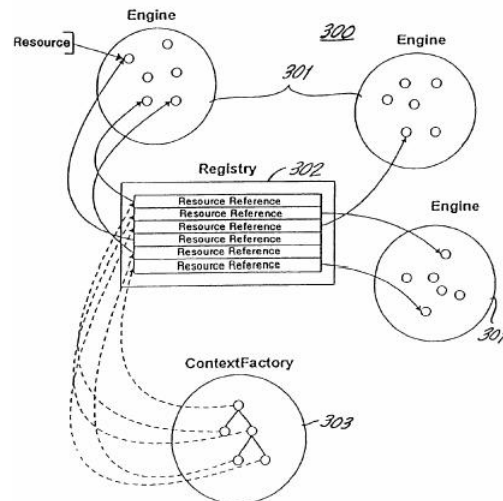| Blackboard's Proposed Construction	D2L's Proposed Construction
The <u>function</u> is "storing a plurality of data files associated with a course."	Function: Storing a plurality of data files associated with a course.
The corresponding <u>structure</u> is a server computer with a storage device, such as a database or persistence storage (*e.g.*, 140 in Fig. 1), and equivalents thereof.	Structure: System server 100 Construction: The data files for a course must be stored on a server computer.

Both parties agree that this claim term is a means-plus-function claim term subject to interpretation under 35 U.S.C. § 112. Both parties agree on the relevant function. The parties disagree on the structure corresponding to this claim term. Blackboard's construction provides that the corresponding structure is a "server computer with a storage device, such as a database or persistence storage."   D2L limits the corresponding structure to "system server 100." Additionally, D2L proffers a construction that requires that *all* data files *must be stored* on the server. Blackboard is correct, and D2L is wrong, on both points.

a.   The server computer, in and of itself, is not the structure. The claim language of claim 1 provides that a "server computer" *comprises* the means for storing a plurality of data files. *Patent* 30:38-39; *Jones Dec.* ¶ 26. The server computer, then, by itself, is not the means structure for carrying out the claimed function of storing a plurality of data files. *See id.* at 3:66-67 ("[t]he server computer *has* means for storing data files") (emphasis added).

The specification supports Blackboard's proposed construction. It describes storage in a server computer for performing the function of storing a plurality of data files associated with a course. *Jones Dec.* ¶ 26. For example, the specification provides that the server computers utilize storage devices, such as relational databases or persistence storage, to store a plurality of data files associated with a course:

> application subsystems 110 and core subsystems 150 interface with database subsystem 140 via the Java Database Connectivity (JDBC) standard interface to *allow the use of any relational database* including, but not limited, to SQL and DB2 Universal Database standards.

Id. at 9:59-64. Figure 1 also illustrates various storage devices, such as database and persistence storage 140, could be utilized (e.g. Oracle, SQL Server, Sybase, Informix); *Supp. Jones Dec.* ¶¶ 6-8.

Three additional points demonstrate the problems with D2L's proposed construction identifying the corresponding structure as õsystem server 100.ö First, D2L appears to be requiring the entire system server 100 depicted in Figure 1 of the ø138 patent, which includes a lot of structures not necessary for or clearly linked to performing the recited function of õstoring a plurality of data files associated with a course.ö Second, D2L's proposed construction does not identify any structure in the server computer for performing this function. *See Jones Dec.* ¶ 27. Third, D2L's identification of the õsystem server 100ö is confusing. The number 100 in the patent refers to the õeducation support system,ö not to a õsystem server.ö *Patent* 7:40-8:5. Figure 1 shows that one or more servers could be at work in the education support system, including a web server host 130 and a database running on a server (e.g., database and persistence storage 140). It is not clear to which server D2L is referring.

b.   The claim term expressly relates to "a _plurality_ of data files," rather than _all_ data files. There is no requirement that all data files associated with a course be stored on the server. D2L's õconstructionö does not comply with the statutory framework for construing means-plus-function elements under 35 U.S.C. § 112(6). Section 112 requires identification of the structure for performing the recited function. D2L identifies a function, but then goes on to import additional functional limitations not present in the claim element through its õconstruction.ö D2L repeats this error in all of its constructions for the means-plus-function elements in claim 1. As the Federal Circuit has explained:

> A court errs when it improperly imports unclaimed functions into a means-plus-function claim limitation. First, this can occur during claim construction by defining a claimed function to require more than is actually claimed. Second, the error can occur during infringement analysis if the court improperly determines the way in which the disclosed structure performs the previously-defined function. In this step, the inquiry should be restricted to the way in which the structure performs the properly-defined function and should not be influenced by the manner in which the structure performs other, extraneous functions.

Applied Med. Res. Corp. v. United States Surgical Corp., 448 F.3d 1324, 1334 (Fed. Cir. 2006).

Contrary to the Federal Circuit's instructions, D2L seeks to impose more additional limitations through its proposed "construction" that "the data files for a course *must be stored* on a server computer." (emphasis added). This limitation appears to be pulled straight out of thin air. There is simply nothing in claim 1, the '138 patent, or its file history that requires *all data files* for a course must be stored on a server computer, rather than just some of the files. Indeed, claim 1 uses the language a means for storing "a plurality of data files," which just means two or more such files. The intrinsic evidence cited by D2L provides no support to its limiting construction. Claim 1 expressly provides that the relevant function is the storing of a "plurality of data files." The parties agree that the relevant function relates to a "*plurality*" of data files. Nevertheless, D2L advances a construction that reads the "plurality" feature out of the claim term. D2L fashioned its construction so that it can argue that *all* data files— as opposed to a plurality of them— must be stored on the server. There is no support for such a restrictive interpretation. It is wrong to equate "a plurality of data files," which means at least two, with "*all* data files," which potentially runs into the hundreds of thousands of data files.

D2L's limitation that "all" the files "must be stored on a server computer" is equally without support. Dr. Jones testified: "There is nothing in claim 1, the '138 patent, or its file history that requires all data files for a course must be stored on a server computer." *Jones Dec.* ¶ 27. To the contrary, the claim language and the specification make it clear that <u>not</u> all files associated with a course must be stored on the server. The specification provides that the user may create a file associated with a course in response to a course-related file the student is able to read, and provides no restriction that this file be stored on the server. *See, e.g., Patent* 4:18-28. The specification also provides that such files may be stored on the user's hard drive, and later uploaded transferred to the server from the student's hard drive via the dropbox feature:

> As shown in FIG. 15, the dropbox web page 1500 allows the student to type in box 1502 the resource location of *a file that he wishes to provide to the instructor*, or to *browse his computer's hard drive* with button 1504, *network drive, etc.* in accordance with well known techniques to locate the file and insert the appropriate pointer. . . . . The "digital dropbox" may

contain a plurality of files *transferred to the server computer* from one or more student users associated with the course.

Id. at 16:20-25, 4:46-48 (emphasis added); *see also* Fig. 15 (õFile to Uploadö). Even before this illustrative file is transferred to the server computer, it is a file associated with a course.

2.   **"Means for assigning a level of access to and control of each data file based on a user of the system's predetermined role in a course"**

Blackboardøs Proposed Construction	D2Løs Proposed Construction
The <u>function</u> is õassigning a level of access to and control of each data file based on a user of the systemøs predetermined role in a course.ö The corresponding <u>structure</u> is a server computer with an access control manager (*e.g.*, 152 in Fig. 1), and equivalents thereof.	Function: Assigning a level of access and control of each data file based on userøs predetermined role in a course. Structure: A level of access and control of each file is supplied by the role taken on by the userøs role in the associated course. Construction: After a non-executable file is transferred to the server computer, a user with the instructor role designates which system defined roles should have which levels of access and levels of control over the file.

The parties disagree on the function and structure corresponding to this claim term. Blackboardøs construction provides that the function is õassigning a level of access to and control of each data file *based on a user of the system's predetermined role in a course*,ö while D2L provides that the function is õassigning a level of access and control of each data file *based on user's predetermined role in a course*.ö (italics represent differences). Blackboardøs construction provides that the corresponding structure is õa server computer with an access control manager (*e.g.*, 152 in Fig. 1),ö while D2L proposes that the corresponding structure is the õrole taken on by the userøs role in the associated course.ö Additionally, D2L proposes a construction that limits the term to files that are õnon-executable,ö limits the roles to being õsystem defined roles,ö and limits the role that assigns the access and control levels to the õinstructorö role. The claim language and the intrinsic and extrinsic evidence favor Blackboard on each issue.

a. Blackboard's construction incorporates the function as set forth by express claim language. The claim language is unambiguous: The function is õassigning a level of access to

and control of each data file based on a user of the systemøs predetermined role in a course.ö *Patent* 30:41-43. Blackboardøs construction properly incorporates this claim language.

D2L, however, has modified this language by changing õuser of the systemö to õuser,ö omitting õof the system.ö Thus, D2Løs proposed construction of the function is incomplete. *See Jones Dec.* ¶ 28. At first blush, this may seem a distinction without a difference, although there is still no need to introduce a level of ambiguity into the case on this issue where the functional language of the claim itself is plain: the õuserö is the õuser of the system.ö Upon closer examination, however, the distinction becomes more important.   When D2Løs proposed functional language is viewed alongside its proposed additional construction of the term, D2Løs motivation becomes obvious.   D2L is attempting to limit õuserö to õinstructor user.ö More specifically, D2L argues that the phrase õbased on a user of the systemøs predetermined role in a courseö means õbased on an *instructor user's* predetermined role in a course.ö Indeed, D2Løs proposed construction provides that the õinstructor user,ö and no other user, is responsible for assigning the level of access and control. Thus, D2L cannot allow the function of this term to track the claim language, because in that event, its additional proposed construction (and its special limitations) simply falls apart.[5]   The uncomplicated claim language should control.

b.   The intrinsic evidence provides that the structure at issue is an access control manager. The structural components proposed by Blackboardô a server computer with access control managerô are supported by the intrinsic evidence. For instance, Blackboard proposes that the structure includes the server computer, which accords with the express claim language:

> . . . a *server computer* in communication with each of the user computers over a network, the *server computer* comprisingí means for assigning a level of access to and control of each data file based on a user of the system's predetermined role in a course;

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[5] Even if D2Løs functional language was adopted, the term õuserö would reasonably be interpreted as the user of the system, and not be limited to an instructor user. Nevertheless, Blackboard believes that claim construction process should reduce levels of ambiguity, where possible. This is an instance where express claim language, set forth in Blackboardøs construction, serves to sidestep future arguments by D2L concerning any arguable ambiguity of õuser.ö

Patent 30:35-38, 41-43. (emphasis added).   One of ordinary skill would recognize the importance of the server computer as set forth in the claim language. *See Jones Dec.* ¶ 28 (õClaim 1 itself says that a ‑server computerø comprises this ‑means for assigningö). D2Løs proposed structure does not account for the server.

Further, the specification describes the õaccess control managerö as performing the recited function of õassigning a level of access to and control of each data file based on a user of the systemøs predetermined role in a course.ö For example, one way the access control manager may perform this function is by creating an access control list, which associates user roles with levels of access to course files. Before a user can access course files, the access control list is checked to ensure the userøs role is such that the user should have access to the course files. *Supp. Jones Dec.* ¶¶ 9-11. This protects subsystem resources:

> *Access control manager* 151 creates an access control list (ACL) for one or more subsystems *in response to a request from a subsystem to have its resources protected* through adherence to an ACL. Education support system 100 provides multiple levels of access restrictions to *enable different types of users* to effectively interact with the system (e.g., access web pages, upload or download files, view grade information) while preserving confidentiality of information.

Patent 9:37-40 (emphasis added); *see also id.* at 7:36-39 (õAccess to the course file is controlled by access levels and control logic, to ensure integrity and security of the system.ö); Prov. Spec. A at 19 (an õAccessManagerö brings õ*granular access control services to any subsystem that requires restricted access to its resources*.ö) (emphasis added). One of ordinary skill in the art would recognize, based on the specification, that the access control manager assigns levels of access to and control of each data file based on user roles. *Jones Dec.* ¶ 28.

D2L erroneously ignores the corresponding structural machinery involved with assigning of a level of access and control ó the access control manager. Instead, in circular fashion, D2L proposes that the relevant structure is merely the õrole,ö which is already set forth in the claimed function itself. As Dr. Jones testified, õD2Løs corresponding structure is not really a structure at all; rather, D2L identifies more functionality.ö *Id.* ¶ 29.

-18-

D2L's proposed construction should be rejected for yet another reason: It is confusing, even to one of ordinary skill in the art. Although the claim language expressly uses the functional term "assigning," D2L uses the distinct word "supplying." Dr. Jones testified: "The additional functionality provided in D2L's structure is confusing in that it says ‑supplied by the role taken on by the user's role.' It is unclear what D2L means when it says ‑supplied by the role.' Further it is unclear what D2L means by ‑taken on by the user's role.'" *Id.* ¶ 29.

*c. **There is no support for limitations that D2L's "construction" reads into the claim term.*** Once again, D2L's "construction" erroneously imports functional limitations not present in the claim: "after non-executable file is transferred to the server computer, a user with the instructor role designates which system defined roles should have which levels of access and levels of control over the file." There is nothing in claim 1, the specification, or the file history, that limits the claim to a user with the instructor role designating which roles should have which levels of access and levels of control over a file. Indeed, the specification provides an example describing the administrator role as setting levels of access and control based on roles. *Patent* 12:58-63. Additionally, D2L's proposed construction includes its flawed proposed constructions for "multiple predetermined user roles." And there is no support in the claim language or otherwise for limiting the claim to "*non-executable* files." *Jones Dec.* ¶ 29.

3. "Means for determining whether access to a data file associated with the course is authorized."

Blackboard's Proposed Construction	D2L's Proposed Construction
The <u>function</u> is "determining whether access to a data file associated with the course is authorized."	Function: Determining whether access to a file associated with the course is authorized.
The corresponding <u>structure</u> is a server computer with access control data, such as an access control list, and equivalents thereof.	Structure: Shell service 131 servlet provides user authentication.
	Construction: The access control list is used to determine whether the user's role has the level of access needed to locate, view, or download a non-executable file.

The parties agree as to the function of this term.[6] They disagree as to the structure, and D2L has proposed an additional construction that is unnecessary and wrong.

a. Blackboard's structure construction is supported by the claim language and the specification. The structural components proposed by Blackboardô a server computer with access and control dataô are supported by the intrinsic evidence. D2Løs proposed structure, however, once again ignores the course management system structure set forth in the specification for performing the claimed function. Instead, D2Løs construction incorrectly focuses on a component (a shell service servlet) that merely serves as the web server host interface between the user and the course management system.

Blackboardøs proposal that the structure includes the server computer accords with express claim language: õ. . . a server computer in communication with each of the user computers over a network, the server computer comprisingí means for determining whether access to a data file associated with the course is authorized.ö *Patent* 30:35-38, 43-44 (emphasis added); *see Jones Dec.* ¶ 30 (õClaim 1 itself says that a ÷sever computerø comprises this ÷means for determiningö). D2Løs proposed structure once again does not account for the server.

Blackboard properly considers the structure responsible for performing claimed function ó determining whether access to a data file associated with the course is authorized ó which is the server computer with access control data. The specification describes access control data in the form of an õaccess control listö or õACL.ö As discussed above, the access control list associates user roles with levels of access to course files. Before a user can access course files, the access control list is checked to ensure the userøs role is such that the user should have access to the course files. It is thus through õadherence to an ACLö that system resources are protected. *Patent* 9:37-38 (õAccess control manager 151 creates *an access control list (ACL)* for one or more subsystems in response to a request from a subsystem to have its *resources protected through adherence to an ACL.*ö) (emphasis added); *see id.* 7:36-37 (õAccess to the course file is

_____

[6] Blackboard believes D2Løs reference to a õfileö rather than a õdata fileö as stated in the claimed function may be inadvertent. If not, D2Løs construction is erroneous in leaving out the word õdata.ö

controlled by access levels and control logicö); *Supp. Jones Dec.* ¶¶ 12-14. An access control list õis one form of access control data that can be used to perform the function of this claim element.ö *Jones Dec.* ¶ 31; *see also* ø138 Provisional Specification, *reprinted at* <u>Attachment 16</u>, at App. A, p. 19 (listing õAccess Control Lists (ACLs), ACLEntries, and Permissionsö),; *id.* at App. E, p. 11 (õThe AccessManager is used to provide the means of verifying user authorization and rights to access specific objects as well as the system itself.ö). But the corresponding structure is not limited to an access control list as the only form of access control data for performing the claimed function. *See Linear Tech. v. Impala Linear*, 379 F.3d 1311, 1322 (Fed. Cir. 2004) (õThat the disputed term is not limited to a single structure does not disqualify it as a corresponding structure, as long as the class of structures is identifiable by a person of ordinary skill in the art.ö).

D2L ignores the structure in the course management system for performing the claimed function. D2L alleges that the relevant structure is the shell service 131 servlet, which is part of the web server host. But the web server host and the servlet 131 are not linked in the specification to the claimed function of õdetermining whether access to a data file associated with the course is authorized.ö The specification is clear that the servlet just õprovid[es] the *standard Internet interface*í to the user via web browser 120 running on a standard computing platform such as a personal computer or workstation.ö 7:63-67 (emphasis added). The term õshellö in õshell service servletö is appropriately descriptive, as it refers to the outer appearance, *i.e.*, the web browser interface, that the user sees:

> [S]hell service 131 servlet renders and *presents to the user (via web browser 120) a personalized web page* comprising a student-centric aggregation of data that may include, without limitation, personal class schedules, grades, a rolled-up or consolidated calendar, links to related tools, student group events . . . , and class announcements.

Patent 10:16-23. The shell servlet 131 is merely used for username and password authentication and maintenance of the userøs web session. *Patent* 7:67-8:5; *see also Jones Dec.* ¶ 31 (õThe ø138 patent describes the shell 131 servlet as providing user authentication during a login sequence, not determining whether access to a data file associated with a course is authorized.ö) (citing

Patent 8:4-5). To put this another way, the shell servlet 131 is used during the user's first login, and maintains the user's web session by keeping a "cookie" that maintains the user's username and password for that session so that the user does not have to keep logging in to continue moving from one webpage to another webpage in the course management system.

b. *The limitations of D2L's additional construction should be rejected.* The additional construction proposed by D2L constitutes another attempt to read into the claim words that simply are not present. There is nothing in claim 1, the patent, or the file history that limits the claim to an access control list, as the only form of access control data. *See Jones Dec.* ¶ 31. Nor is there anything in the claim that requires a "level of access needed to locate, view, read, or download a non-executable file." *Id.* D2L has made up these limitations from whole cloth.

4.   **"Means for allowing access to and control of the data file associated with the course if authorization is granted based on the access level of the user of the system"**

Blackboard's Proposed Construction	D2L's Proposed Construction
The <u>function</u> is "allowing access to and control of the data file associated with the course if authorization is granted based on the access level of the user of the system."	Function: Allowing access to and control of the data file associated with the course if authorization is granted based on the access level of the user of the system.
The corresponding <u>structure</u> is a server computer with access and control logic, such as an engine (*e.g.*, 114, 115, or 116 in Fig. 1, or 301 in Fig. 3), factory (*e.g.*, 303 in Fig. 3), registry (*e.g.*, 111, 112, or 113 in Fig. 1, or 302 in Fig. 3), or manager (*e.g.*, 153, 154, 155, 156, or 158 in Fig. 1), and equivalents thereof.	Structure: Access control manager 151. Construction: The server computer has an access control list which identifies which roles have which levels of access to the non-executable files stored on the server computer. The level of access is used to determine both the user's access and control over the non-executable files.

As with the previous term, the parties agree as to the function of this term. They disagree as to the structure, and D2L has proposed an additional construction that is unnecessary, unsupported, and incorrect.

Blackboard's construction is well-supported. As required by the claimed function, access and control logic in the system allows access to and control of the data file associated with the

course if authorization is granted based on the access level of the user of the system.   As explained by Dr. Jones: õAs described in the øl38 patent, access and control logic is used to allow the access and control of a data file for which authorization has been granted to the user based on the userøs access level.ö *Jones Dec.* ¶ 32.   Such access and control logic includes, *e.g.*, an engine (*e.g.*, 114, 115, or 116 in Fig. 1, or 301 in Fig. 3), factory (*e.g.*, 303 in Fig. 3), registry (*e.g.*, 111, 112, or 113 in Fig. 1, or 302 in Fig. 3), or manager (*e.g.*, 153, 154, 155, 156, or 158 in Fig. 1).   These structures may be used to allow the eventual access to the course file content once the access control data is checked to ensure the user has permission for the requested access to the course file. *Patent* 3:66-4:6; 7:36-38; 7:40-55; 21:64-22:10; 27:13-32; *Supp. Jones Dec.* ¶¶ 15-17.[7]

In addition to once again erroneously importing additional functional limitations into this means-plus-function claim element through its õconstructionö requiring an õaccess control listö and õnon-executable files,ö D2L erroneously construes the corresponding structure as the access control manager 151.   This is the wrong structure.   The patent does not describe the access control manager as performing the claimed function of actually allowing the access to and control of the course files. *Patent* 9:37-40.   Rather, as discussed above, the access control manager assigns levels of access to and control of course files for user roles by creating access control data.   The access control data associates a user role with a level of access.   The access control data is checked to determine whether the userøs role allows the user to access the course file.   Then, as pertains to this claim element, access and control logic, *e.g.*, in the form of content engines, factories, registries, or managers, actually allow access to the course file once the access control data is checked to ensure the user has permission to access the course file.

C.   PTO Printing Errors in Claim 36 Should Be Corrected by the Court.

Claim 36 contains two typographical errors made by the PTO.   Both errors are evident from the face of the patent.   Neither correction is subject to reasonable debate based on consideration of the claim language and the specification.   Further, the prosecution history

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[7] For further explanation of each of these structures, see *Supp. Jones Dec.* ¶ 17.

suggests only one interpretation of the claims. Consequently, it is within the Court's power to correct the two typographical errors, and it should do so. *Hoffer v. Microsoft Corp.*, 405 F.3d 1326, 1331 (Fed. Cir. 2005); *see also E-Watch, Inc. v. March Networks Corp.*, No. 06-25, 2006 U.S. Dist. LEXIS 54355, at *24-*25 (E.D. Tex. Aug. 4, 2006) ("When a harmless error in a patent is not subject to reasonable debate, and the prosecution history does not support a different interpretation, the error can be corrected by the court.").

1.   The Superfluous "Method for Providing" Should Be Eliminated.

The first clause of claim 36 reads: "An *method for providing* online education method for a community of users in a network based system . . ." *Patent* 32:20-21. The presence of the italicized language is a PTO error that the Court should fix by eliminating it.

The PTO's error is clear from the claim language. The term "An method for providing online education method" is redundant in using the word "method" twice. The proposed corrected language, however, is easy to understand: "An online education method for a community of users." Basic grammar rules also establish the PTO's error. The indefinite article *a* is used before words beginning with a consonant sound. The article *an* is used before words beginning with a vowel sound. BRYAN GARNER, A DICTIONARY OF MODERN AMERICAN USAGE (1998) 1. Thus, "[a]n method" is grammatically improper, while "[a]n online education method" is correct. *Cf. Rackable Sys., Inc. v. Super Micro Computer*, No. 05-3561, 2006 U.S. Dist. LEXIS 81432, at *34 (N.D. Cal. Oct. 27, 2006) (holding that, in claim construction, the "more grammatically correct interpretation of the disputed language" should prevail).

The prosecution history demonstrates that the superfluous "method for providing" was the result of an error by the PTO. In its December 1, 2004 amendment, the applicant requested that the examiner change "A method for providing online education" to "An online education method":

38. (Currently Amended) An ~~method for providing~~ online education method for a community of users in a network based system, comprising the steps of: a. establishing that each user is capable of having predefined characteristics indicative of multiple predetermined roles in the system and each role providing a level of access to and control of a plurality of course files;	"A method for providing online education" was changed to "An online education method"

December 1, 2004 Amend. at 7. In printing the final patent, however, the PTO failed to make the change. The Court should do so now. No other reasonable interpretation of the claim is possible. *See Jones Dec.* ¶ 55 ("The PTO clearly erred in failing to make the applicant's amendment and mistakenly printed the word ‑method' twice.").

2. "Redefined" Should Be Corrected to "Predefined."

Claim 36 clause (a) includes the phrase "each user is capable of having redefined characteristics indicative of multiple predetermined roles in the system." Instead of "*re*defined characteristics," the claim should say "*pre*defined characteristics." The omission of the letter "p" was another typographical error by the PTO.

From the face of the patent, one of ordinary skill in the art would recognize the PTO's printing error— that "redefined" really was intended to mean "predefined." The specification repeatedly uses the term "predefined" in relation to roles and characteristics. For example, the *Summary of the Invention* section of the '138 patent provides: "Each user computer is associated with a user of the system having *predefined characteristics* indicative of a predetermined role in the system." *Patent* 3:61-64; *see id.* 3:44.   In contrast, the word "redefined" is *completely absent* from the claims and written description portion of the specification.

The prosecution history confirms that it is proper to read "redefined" as "predefined." In its December 1, 2004 amendment, the applicant requested the examiner enter the following underlined language into the claim (note: claim 38 eventually became claim 36):

> 38. (Currently Amended) An ~~method for providing~~ online education method for a community of users in a network based system, comprising the steps of:
>
> a. establishing that each user is capable of having predefined characteristics indicative of multiple predetermined roles in the system and each role providing a level of access to and control of a plurality of course files;

õpredefinedö

December 1, 2004 Amend at 7. The language õpredefinedö was added by the applicantøs amendment. The examiner apparently believed it had been properly entered, as the examiner commented on the presence of this language in its Notice of Allowance:

> 4. Reason for allowance:
>
> The following is an examiner's statement of reasons for allowance:
>
> Claims 1, 3-36, and 38-46 are allowed in response to applicant's persuasive arguments.
>
> The following is an examiner's statement of reasons for allowance: None of the prior art teach or suggest a course base-based system for providing to a an educational community of users access to a plurality of online courses, comprising: a plurality of user computers, with each user computer being associated with a user of the system and with each user being capable of having predefined characteristics indicative of multiple predetermined roles in the system, each role providing a level of access to a plurality of

August 18, 2005 Supp. Notice of Allowability (emphasis added). Nevertheless, when the patent was printed, the õpö was omitted, an error that is apparent on the face of the patent. The error should be corrected by this Court.

D. Disputed Terms in Claim 36.

  1. **"An ~~method for providing~~ online education method for a community of users in a network based system comprising the steps of:"**

Blackboardøs Proposed Construction	D2Løs Proposed Construction
After correcting the PTO's error by eliminating the superfluous "method for providing," plain and ordinary meaning is sufficient. No further construction is necessary.	A method for exchanging online education materials and information between non-collocated instructors and students, using a computer network.

Blackboard contends that once the PTO error is corrected, the claim language speaks for itself. No further construction is necessary. D2L, however, seeks to use claim construction to add three limitations to the claim that are not present.

First, D2L seeks to limit the claim to "exchanging online education materials." Nothing in the language of the claim or the specification teaches toward this limitation. The claim says "online education method." Certainly, the exchange of "education materials" can be *part* of this, as the claim language makes clear. *Patent* 32:29-30. But it is also clear that the claim is not limited to this, as there is more to "online education" than just the exchange of materials. For example, the dependent claims make clear that that it also includes direct communication between users, through asynchronous communication (such as chat rooms) and synchronous communication. *Id.* 33:7-34:6. Also, it includes instructors posting grades and performing statistical analyses. *Id.* 32:61-33:6. Neither of these requires exchanging "materials."

Second, D2L's proposed construction limits the claim term to exchanges between instructors and students. The claim contains no such limitation. The specification expressly teaches to the contrary. It states that the method of the invention "enabl[es] synchronous communications amongst the student users." *Id.* 5:54-60. The method obviously allows students to exchange information and communicate with instructors, but it also allows students to exchange information and communication *with each other*.

Third, D2L's proposed construction introduces the limitation of "non-collocated instructors and students." The claim does not use this language or otherwise refer to the location of the instructor and the student, nor does the intrinsic evidence that D2L cites. *See Jones Dec.* ¶ 56. Additionally, rather than simplifying the case for the jury, introduction of the concepts of "non-collocated" and "collocated" unnecessarily confuses the case. *See id.* It is not clear what D2L means by "non-collocated." And including a "collocation" requirement is at odds with common sense. In a wired classroom, a professor and a student can both be using an online course management system described in the '138 patent while in the same room together at the same time.

2. **"Establishing that each user is capable of having [p]redefined characteristics indicative of multiple predetermined roles in the system."**

Blackboard's Proposed Construction	D2L's Proposed Construction
The PTO error should be corrected by changing "redefined" to predefined. The term should then be construed as: Establishing that each user can have multiple roles in the system such that each user identity can have one role in one course and another role in another course. The roles and some associated characteristics are set before the user can access data files of a course.	A user may be assigned more than one role. The roles contain properties that have been defined by the system, not by a user.

Both parties agree that this term should be construed in a manner consistent with how the Court construed the term õwith each user being capable of having predefined characteristics indicative of multiple predetermined roles in the systemö in claim 1. *See* Section III.A.1 *supra.* D2L offers the identical construction for both. Blackboard's constructions are identical except Blackboard includes the phrase õEstablishing thatö at the beginning of its construction. This addition tracks the claim language.

As with the term from claim 1, Blackboard's proposed construction is superior. *See Jones Dec.* ¶ 58. Blackboard's proposed construction captures an important aspect of the invention set forth in the claim language, supported by the specification and file history, and admitted by D2L's CEO: Using a single login, a user can have multiple roles in multiple courses; a user can be a student in one course and an instructor in another.

3. **"Providing a predetermined level of access and control [over the network to the course files]."**[8]

Blackboard's Proposed Construction	D2L's Proposed Construction
Providing access and control to course files over the network, where the level of access and control is set before the user can access or control course files.	The authority to locate, view, read, download, modify, add, move, and delete files associated with a course is provided by the system, not by a user.

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[8] *See* footnote 1, *supra*, regarding the bracketed claim language. *See also Supp. Jones Dec.* ¶ 18.

Blackboardøs construction accounts for a temporal limitation consistent with the plain meaning of õpredetermined.ö The word õpredetermineö means õto settle or decide in advance.ö RANDOM HOUSE, *supra¸* at 1038. Thus, a õpredeterminedö level of access and control means that the level of access and control is decided in advance of a certain event, and one of ordinary skill in the art would understand from the intrinsic and extrinsic evidence of record that this event is the accessing of course files. This is supported by the specification and the file history. *See Jones Dec.* ¶ 60; *Patent* 3:42-46, 3:58-64, 4:7-11, 7:56-61; Dec. 1, 2004 amend. at 10; Aug. 18, 2005 Supp. Notice of Allowability at 31. D2L again ignores the temporal limitation of õpredeterminedö and once again pulls from the blue the õprovided by the system, not by a userö limitation. As discussed above, there is no support for this limitation in the patent. Indeed, the specification expressly describes *users* setting the properties of roles. *Patent* 12:61-63; 13:17-19; *see also Jones Dec.* ¶¶ 22, 58, 62.

Beyond the temporal limitation, the term requires no further construction. The words õlevel,ö õaccess,ö and õcontrolö have well understood meanings, consistent with and supported by the specification, as well as the dictionary definitions offered by Blackboard. *Jones Dec.* ¶ 59; *Patent* 4:1:3, 4:19-25, 9:40-45, 11:60-12:2, 12:58-66; RANDOM HOUSE, *supra*, at 8, 290, 761. In this context, an example of level of access is the permission (or lack thereof) to perform a specific set of operations, and a level of control, for example, is the ability (or lack thereof) to set those permissions or make files available to other users. *See Jones Dec.* ¶ 59.

The relationship between the claim language and D2Løs proposed construction is virtually nonexistent. Nothing in the claim language, or the intrinsic or extrinsic evidence, leads to the conclusion that õlevel of access and controlö requires the õauthority to locate, view, read, download, modify, add, move, and delete files associated with a course.ö *See Jones Dec.* ¶ 62.

4.   **"Generating a set of course files for use with teaching a course."**

Blackboard's Proposed Construction	D2L's Proposed Construction
No construction necessary—plain and ordinary meaning.	Creation by the instructor user of more than one file for use in teaching a course.

As the Court has observed, "although every word used in a claim has a meaning, not every word requires a construction." *Orion IP, LLC v. Staples, Inc.*, 406 F. Supp. 2d 717, 738 (E.D. Tex. 2005). Of all the terms in dispute, this term best illustrates that maxim. D2L's proposal of a construction for this term, which is in the plainest of English and is easy for a lay-person to understand, ought to reflect on the credibility of D2L's other construction proposals – which, like this one, impose limitations unsupported in the claim language or the intrinsic or extrinsic evidence. The terms "creation," "file," and "course" have well understood meanings to one of ordinary skill in the art, consistent with and supported by Blackboard's intrinsic and extrinsic evidence. *See Jones Dec.* ¶ 63.   No further construction is necessary.

D2L's proposed construction is flawed in several respects.   First, and most fundamentally, neither the claim language nor intrinsic evidence supports the limitations imposed by D2L's construction. *Id.* ¶ 64 (citing *Patent* 4:12-18; 5:31-37; 8:21-23; 11:54-59). Second, D2L's construction requires that the *instructor* generate the course files. This limitation is nowhere in the claim. *Id.* ¶ 64. In practice, students could generate course files. For example, in a history class, each student could be assigned to generate a research report on a particular U.S. president; the collection of reports that the students generate and turn in could become course files that the instructor uses to teach a portion of a course.

V.   CONCLUSION

For the reasons stated above, Blackboard respectfully requests that the Court adopt Blackboard's proposed constructions for each claim term in dispute and correct the two PTO errors in claim 36.

Respectfully submitted,

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-2-

CERTIFICATE OF SERVICE

The undersigned certifies that all counsel of record who have consented to electronic service are being served with a copy of this document via the Court's CM/ECF system per Local Rule CV-5(a)(3) on this the 29th day of May, 2007. Any other counsel of record will be served by first class mail.

                                    /s/ J. Thad Heartfield
                                    J. Thad Heartfield